DOCKET NO: 278057US0PCT

<u>IN THE UNITED STATES PATENT & TRADEMARK OFFICE</u>

IN RE APPLICATION OF	:
OLIVER SEEGER, ET AL.	: EXAMINER: LE, HOA T.
SERIAL NO: 10/551,434	:
FILED: SEPTEMBER 29, 2005	: GROUP ART UNIT: 1773
FOR: USE OF COATED METALLIC LUSTER PIGMENTS FOR PIGMENTING HIGH MOLECULAR WEIGHT MATERIALS	:

<u>DECLARATION UNDER 37 C.F.R. §1.132</u>

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

I, Norbert MRONGA, hereby declare:

1.   In 1980, I received a master of science degree from Philips University Marburg, Germany, in the field of inorganic complex chemistry. In 1982, I received a Ph. D. degree from the Philips University, Marburg, Germany. My studies were directed to the subject of inorganic complex chemistry.

2.   I have been employed by BASF Aktiengesellshaft ("BASF") from 1983 to the present.

3.   From 1983 to 2007, I worked for BASF as a research follow in the area of coated Al pigments.

4.   I am a named inventor in the above-captioned patent application, of which

BASF is the assignee. I am familiar with and have worked with the products and methods

described in the above-captioned patent application.

5.   I am familiar with U.S. Patent No. 5,607,504 to Schmid et al. ("Schmid") and

WO 99/35194 to Coulter et al. ("Coulter"). I am also familiar with and have worked with the

products and methods described in Schmid and Coulter.

6.   I and/or those under my supervision carried out the following experimentation:

a)   Luster pigments were prepared as described in the Examples of the above-

identified patent application. *See* present specification, pages 5 to 8. Namely, aluminum

pigment paste was dispersed in a mixture of ethanol and tetraethoxysilane and stirred.

Following addition of water and ammonia solution, the resulting suspension was gradually

heated. Tetraethoxysilane, ethanol and ammonia solution were simultaneously metered into

the heated suspension. After addition of a predetermined amount of tetraethoxysilane, the

metered additions were stopped and the suspension was subsequently stirred. After the

suspension cooled to room temperature, a coated aluminum pigment was filtered off, washed

first with ethanol and then with water, and then spread out on trays to dry.

b)   Ten luster pigments (Examples 1-10) were prepared by the above-described

process. In Examples 1-4, a first aluminum pigment (Alpate® NS 7670 from Toyal Europe)

was employed. In Examples 5-8, a second pigment (Alpate® F 795 from Toyal Europe) was

employed. In Examples 10 and 11, a third aluminum pigment (Alpate® 211 from Toyal

Europe) was employed. In each of the Examples, reaction conditions were varied to provide

SiO_2 coatings of differing thicknesses. Three comparative pigments (Comparative Examples

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C1-C3) were provided including aluminum pigments as used in Examples 1-11 without SiO_2 coatings. In the TABLE attached hereto, the aluminum pigment used, thickness of SiO_2 coating, weight percent of aluminum, and weight percent of SiO_2, are set forth for each of the Examples and Comparative Examples.

c)   The pigments of each of the Examples and Comparative Examples were used to color plastic plaques. The pigments of Examples 1-4 and Comparative Example 1 were used in an amount of 2 weight percent to color polymethylmethacrylate plaques. The pigments of Examples 5-9 and Comparative Example 2 were used in an amount of 1 weight percent to color polypropylene plaques. The pigments of Examples 10 and 11 and Comparative Example 3 were used in an amount of 2 weight percent to color polypropylene plaques.

d)   The pigmented plastic plaques were subjected to an angle-dependent measurement using a Multiflash goniospectrophotometer from Optronic (Berlin, Germany). The illumination angle was held at a constant 45°, while the difference angle between the angle of measurement and the gloss angle was changed. A white ceramic tile was used as a reference for measuring the lightness. To characterize the lightness flop of the plaques on changing from plan view to inclined view, a metallic effect value (ME) was defined as follows:

$$ME = \frac{(L^*_{25} - L^*_{75})}{L^*_{75}}$$

where:

L^*_{25} is the lightness of the plaque at 25° away from the gloss angle; and

L^*_{75} is the lightness of the plaque at 75° away from the gloss angle.

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The ME values for each of the plastic plaques are set forth in the TABLE. The ME values were normalized to reflect the differing amounts of aluminum in the pigments of the Examples and Comparative Examples, by dividing the ME values by the amount of aluminum in the respective Examples and Comparative Examples. The normalized ME values are set forth in the TABLE. In the attached GRAPH, the normalized ME values are shown as a function of SiO_2 coating thickness.

7.   The Examples and Comparative Examples described herein demonstrate that providing a silver-colored pigment including a platelet-shaped aluminum substrate, and a coating of at least one of silicon dioxide and silicon oxide hydrate of a particular thickness, as provided in claim 1 of the above-identified patent application, provides unexpected, superior performance. In particular, aluminum pigments having coatings with thicknesses of from 250 to 450 nm provide an unexpected, superior metallic effect, when normalized for aluminum content, relative to aluminum pigments having coatings having thicknesses outside of the range recited in claim 1 of the above-identified patent application.

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8.   All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true; these statements were made with the knowledge that willful false statements are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing therefrom.

Date: _O 4 . 12 . 2007_   _Norbet Oll_

Norbert MRONGA

Attachments:
        TABLE
        GRAPH